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Agricultural.

LESSONS FROM THE CENSUS REPORTS.

In the FARMER of January 1st last, I tried to illustrate the farmer's position in the race for wealth, in comparison with other occupations and industries of the United States, as shown by the census report for 1880. The computations and compilations then made were upon the basis of a meager report found in the speech of Hon. G. F. Hoar, of Mass., made to his constituents to prove that farm property contiguous to large manufacturing establishments paid better than farms further removed from such enterprises. The report referred to took 19 counties out of the 2,461 in the United States which show the greatest value in farms and in farm products—the 19 counties being also the largest manufacturing counties of the country. I then also took occasion to animadvert somewhat severely upon the tardiness of the commission presenting the report to the public.

I have now the report before me—a volume of 1,149 pages—entitled "Statistics of Agriculture: With Special Reports on the Cereals, Flour, Milling, Tobacco, and Wheat Production." I have now been making further calculations to illustrate the business of farming, in a business way. Mr. Hoar did not carry his calculations farther than to serve the purpose of tickling his constituents into the belief that they were the most highly favored class of people on earth. He did not show, as I have done, that these same nineteen counties paid but twelve and a half per cent on the value of the investment, and on the basis of products of the farm, "sold, consumed, or on hand." Out of this expense of running the farm must be paid, the living for the family and its running expenses provided, interest, insurance and taxes taken out, which must absorb nearly the whole. The fair inference is that this happy, prosperous people must have investments in these same manufacturing enterprises, to which they look for their income.

A well-dressed, attentive and intellectual agricultural audience, whose education, adornments and living have been provided for and purchased out of a 124 percent investment of less than \$5,000, on average, is an anomaly which is left for some lawyer to explain. Hear what one of them says: "There is no romance in history like the romance which Gen. Walker has given us in the census of 1880."

True, true! and the tragedy parts are played by agriculturists.

"In these days statistics are eloquent, and columns of figures stir the pulse and bring moisture to the eye."

Let us apply some "figures" to Mr. Hoar's lachrymose glands. The whole amount of farm products "raised, consumed and on hand" in the year 1879 was valued at \$2,212,540,927. The number of farms was 4,008,967. This little school boy sum in division is the sympathetic turn in Mr. Walker's "romance." The quotient tells us that the farmer's average income for the United States is the magnificent sum of \$551. Imagine Mr. Hoar and other politicians weeping over these figures. Hear him further: "You add to our national wealth in ten years, a value equal to the entire capital of Italy or Spain. In 25 years our gains would buy the German Empire with its palaces and universities. Every morning that the sun rises on our fifty million of people there is transferred from income to capital \$2,500,000, one-third the amount laid up by the people of the entire globe."

The people engaged in farming in these United States comprise more than one-half of these fifty millions, and one would infer that farmers must share in this daily increase of capital in their ratio of the whole number. Let us see how great has been the increase in farm products in the last ten years. The census of 1870 gave the amount of agricultural products as \$2,450,000,000, or more than \$237,000,000 less than in 1880. In the light of these figures not very much of the two and a

half millions daily increase of capital comes from the farmer's annual \$551.

If you have tears to shed, prepare to shed them now, over the peccadillos, instead of the "romance" of this census investigator.

"It is not commerce, or manufacturers—it is not the wealthy class to whom these benefits chiefly come. Agriculture and labor, in greater proportion than commerce and manufactures, enjoy these benefits and compare favorably with the condition of those interests in other countries."

Farmers, take your taffy in the first part of the sentence quoted, and butt your heads against the grain of truth contained in the latter part.

He says: "This is true of our country as a whole, and especially in New England. Four Massachusetts counties, side by side—Essex, Suffolk, Middlesex and Worcester, rank among the first in amount of manufactured products, and stand at the head of the list in the proportion of product which goes to labor."

I have had the curiosity to see what per cent. this product of labor is to the investment in these four counties, and by a simple computation find that this labor brings less than 16 per cent. on the investment, computed upon the investment in farms and their buildings, fences, etc., and the products of these farms sold, consumed and on hand, while for the whole of the United States the rate is a little more than 21 per cent.

"My own, Worcester County," he says, "leads the world in the proportion of the product of manufactures which the workmen gets, and it is equally true in three of these counties in regard to agriculture. Essex, Middlesex and Worcester stand among the first 15 of the 2,461 counties of the United States in the value of farms, and Worcester is third in the proportion of the product of agriculture to the value of the farms." And yet this product of agriculture is only 17 per cent. of the value of the farms in this boasted Worcester County. The exegesis of this oratory is that farmers are especially provided for, and if they are not thriving and happy, it is not because they have not the best chance of any people on earth; politicians especially want them to believe so—to sit still and not ask for too many things. They want them to believe that the wealth of the earth lies at their feet, and they only have to step out and gather it, and appropriate it. Let Mr. Hoar or any other laudatory effusionist invest his all in this Worcester County farm property, pay the expenses and taxes attending it, and after five years, without the aid of a census report, he will be able to figure with more regard to truth about the business. From the Commissioner of Agriculture down, we hear nothing but the highest encomiums about the business of farming. This Commissioner was understood to state before the National Grange recently in session at Washington, that the agricultural products amounted to 9,000 millions of dollars; he has since added commerce and its running expenses provided, interest, insurance and taxes taken out, which must absorb nearly the whole. The fair inference is that this happy, prosperous people must have investments in these same manufacturing enterprises, to which they look for their income.

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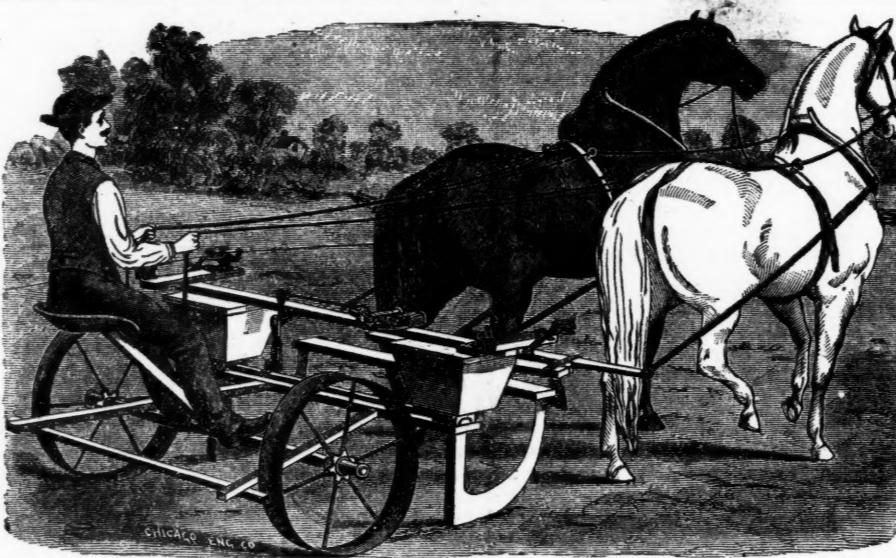
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BARNES WIRE CHECK ROWER, IN USE ON A CORN PLANTER, MANUFACTURED BY CHAMBERS, BERING QUINLAN CO., DECATUR, ILL.

OAKLAND COUNTY NOTES.

The Flock of Merinos Owned by Adam Diehl, of Milford.

In order to gratify a desire we have had for some time, to look over the flock of pure bred Merinos owned by Adam Diehl, of Milford, we bade adieu to dull care and strife, one of those pleasant winter days last week, and took a trip out there. The earth was firmly bound with an unbroken sheet of ice, and as the midday sun shone upon it as we traversed the two miles stretch, over the hilly road between Milford, the railroad station, and his residence, there was before us, as we gazed across the hills and valleys on every side, a constantly changing panoramic view, that was far beyond our ability to describe.

Mr. Diehl's residence is on a southeasterly slope of a hillside, and is protected from piercing north or western winds. On the hillside in the rear of the house, is quite a large peach orchard that has been very productive, last year excepted. His plan of managing his peach orchard is in accordance with that adopted by many successful peach growers, leaving the tree to itself without pruning, as the pruning knife is thought to be productive of much injury and fatal death to the tree. Mr. Diehl has a large stock and grain barn, that is quite conveniently arranged as to caring for stock. The main part is 72x36, extending lengthwise north and south. Across the north end of this barn and extending eastward is another, 64x30. The whole structure stands on a base wall, is amply lighted and ventilated, two things too often neglected.

This flock of registered Merinos was established in 1878 by a purchase of 17 Vermont ewes. A subsequent purchase was made of three more Vermont ewes and one ewe bred by E. W. Hardy. For four years the ram Fearnought (72) was at the head of the flock. This ram was purchased of Merrill Bingham, of Vermont. His sire was Fremont Jr. (215), by Gen. Fremont (126), by Vermont (123) by Sanford A. Gibbs' ram (56) by Lute Robinson's ram (39), by Old Robin (33), by Elitharp (13), by Atwood (12) bred by Stephen Atwood, of Connecticut, in 1842. Fearnought's dam was by Little Wrinkley (48), by Hammond's Sweepstakes (32) g. d. a ewe of Atwood blood, bred by W. R. Sanford, and the dam of Eureka (58), by Cornet (57). It will be seen that this was a well bred ram, with a very large percentage of Atwood blood in him. He was a prepotent sire, putting the Atwood style of fleece on his get, and many of them have excellent bodies. The foundation of this flock when first purchased, clipped 13 lbs. of wool per head, and the get of Fearnought, at two and three years of age, averaged 144 lbs. per head, an increase in weight of fleece of 14 lbs.

The breeding ewes we examined first, we found to be a very uniform lot in size, and fully as large as our best sheep men would select for the most profitable sheep, everything considered. Although these ewes were not pampered up to as high condition as some we have found, they presented a very healthy appearance, and will be likely to save a large percentage of their lambs the coming spring. They are usually allowed an abundance of exercise every day, but the heat had prevented their going out for a few days. Running with the ewes we found the ram Caesar (26), a ram bought by Mr. Diehl of E. W. Hardy. He was bred by G. D. Bush, of North Orwell, Vt., sired by Rex (620) by Centennial (442) by Fremont Jr. (215). It will be remembered that this Rex (620), was the sire of the three ewes that clipped 20 lbs. 8 oz., 21 lbs. 4 oz., and 29 lbs. 8 oz. respectively. This ram Caesar is a very handsome sheep, well folded about the neck, a rather round yet muscular body, is pretty well woolled at the extremities, and carries a dense fleece of a little more than medium length, none too much oil for a stock ram, and the buff color of the wool shows most near the end of the wool. The conformation of body and general make up of this sheep pretty closely reach the model described by Peter Martin. This ram Caesar clipped 28 lbs. of wool last spring at two years of age.

We next examined the young rams sired by Fearnought and Caesar. We

found them of pretty good size, well folded, the fleeces quite uniform, and carried pretty well out at the extremities. We liked those sired by Caesar rather the best, but those breeders who prefer an Atwood style of fleece would be likely to prefer those sired by Fearnought. We like the Caesar bodies and the general appearance that his get present. Mr. Diehl sold twenty-one rams the past season, and yet has a few more to spare.

We then came to the young ewes, where we found them of fine young sheep as we have met. Here we again began to catch and examine the get of the two rams. We were able in every instance to tell a Caesar sheep by the fleece. In the get of Caesar on the Fearnought ewes there was an improvement in density of fleece, and we fancied we could detect them by their general appearance, their bodies indicating a stronger constitution. If this ram increases the weight of fleece as much as did Fearnought, he will have made two great strides ahead.

Mr. Diehl is a great lover of a strong constituted sheep, and yet is determined to produce a heavy fleece. He is thoroughly wedded to his business, and designs to continue to sell his unregistered sheep and increase his flock of purebreds. A visit to his flock we think will convince any one that he loves his business, and realizes Gen. Grant's saying, nothing "succeeds like success."

SEED CORN.

We give herewith an illustration of the improved Leaming corn, which has been disseminated for a few years past by Messrs. Johnson & Stokes, of Philadelphia. It is a handsome corn, with large ears, deep, large kernels of a deep orange color, and a red cob, the cob being the smallest, in comparison with the size of the ear, of any in cultivation. It is extra early, of fine quality, and especially adapted to Northern latitudes. This corn was first brought to public notice at the Paris Exhibition in 1878, where it received the highest award overall other varieties of yellow field corn, since which time it has been thoroughly tested by many of our best farmers, with the greatest satisfaction.

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February 26, 1884.

THE MICHIGAN FARMER.

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Horticultural.

To the Editor of the Michigan Farmer.

FIELD LAWNS OR DOOR-YARD.

Farmers spend much money on their houses, barns, and other out-buildings, but pay little or no attention, in the matter of taste, to their yards or lawns. One finds houses without number that are good enough, and convenient enough, for that matter, but how rarely does one see a door-yard that touches the spot.

The orthodox door-yard or lawn is what one might call "seven by nine." A fence runs from each corner of the house to the road, (which is not far off, so close in fact, that all the road dust gets inside), and inches from ten to fifteen square rods of ground. Just think of a farm of 160 acres with one eighth of an acre for lawn! In this pen, one cannot properly call it a yard, there is sometimes a rose bush, sometimes a flower bed, but most frequently from two to twenty evergreens. The grass is sometimes mowed but often left a tangled mass to die and rot.

Why not take an acre or two and enclose it with a fence, and not let the fence come near the house either. On the lawn let a goodly number of deciduous trees be planted; there is no objection to a few evergreens, but let the most of the tree be good native trees.

When spring opens and the grass is nicely started, turn in a few lambs, or ewes and lambs, and when they have well mowed the lawn turn them out for a while till the grass has got another start.

In this way every farmer can have a good, cheap, and very substantial lawn mower. Our Merino breeders would surely feel happy in seeing their pets so near them, and in a place where passers-by could see their advertisement. Our Northern people can learn something in this matter from their Southern brethren.

In the South the lawns are on a scale proportioned to their estates. A man in Tennessee told the writer that he pastured seventeen head of cattle all summer on his lawn. Our farms are not so colossal as theirs, nevertheless, is there any need of making a pen and calling it a door-yard? If, however, some are too fastidious to keep sheep on their lawn they can now them, with a scythe or a mowing machine, for in the lawn above described there is space for a mowing machine. In another article I shall have something more to say about this subject, also some about the care of back yards.

BART.

SEX IN STRAWBERRY PLANTS.

From the Secretary's Portfolio in forthcoming Michigan Horticultural Report.]

Secretary E. Williams, of Montclair, New Jersey, writes us as follows on the above topic:

The late Nicholas Longworth, of Cincinnati, Ohio, was the first, I believe, to call attention to this matter, assigning this as the cause of failure attending some varieties.

To such question there is one natural, direct and obvious answer, that the failure of the stamens is an imperfection; and that, in plants, as in animals, imperfection perpetuates itself in the process of reproduction. This has so long been recognized as a fact not to be overlooked in the propagation, not of animals only but of plants in general also, that it would seem to be a matter of surprise that with the steady increase of this tendency among our American varieties we have not long since been led to ask ourselves the reason why our varieties are thus imperfect; while those bred in Europe are invariably perfect in bloom.

The word staminate is often used—but erroneously—to denote a perfect flower, but I consider a staminate flower as imperfect as a pistillate one; the former being destitute of pistils and the other of stamens. The former is under all conditions and circumstances barren, the latter so when beyond the fertilizing influence of the other.

My position is that a pure staminate flower is of no use whatever, not even for fertilizing purposes, for we obtain all its advantages in this respect with none of its disadvantages, from the perfect or hermaphrodite flowers, i.e., those having both sexual organs in their blossoms.

I am no botanist, but of those I have consulted on this point, none are prepared to dispute this position, for their attention had not been directed to it before, and they had not investigated it. Neither am I aware of any carefully conducted experiments calculated to determine the point, whether our ordinary pistillate flowering varieties will produce fruit at all, positively beyond the influence of the other sex. It is generally supposed they will not. It is claimed by some that many of these varieties will partially fruit under such circumstances, from the fact that they often produce small and obscure imperfectly developed stamens at the base of their flowers, that afford pollen sufficient for partial fructification, but strictly speaking a pure pistillate flower will not, and cannot, prove fruitful without fertilizing. But taking our so-called pistillate varieties as a class, the best of them fail sometimes, though surrounded with perfect flowering varieties, and no cultivator of intelligence would plant any of the former with a view to fruitfulness unless he provided an abundant supply of the latter to furnish sufficient pollen for their fertilization. To him who grows a great many varieties this point is not of much importance, for he can depend on the perfect flowering kinds to furnish sufficient pollen for all practical purposes; but to him who grows but one or two this question is of more concern.

The Jersey Queen, which Mr. Durand considers his greatest achievement in this class of berries, was a partial failure to say the least, the past season, on his own grounds, though surrounded by an abundance of perfect flowering kinds. This failure attributed to the unfavorable weather at the period of flowering, that prevented the pollen of the perfect flowers from reaching the pistils of the Queen through the agency of wind and bees when they were ready for it.

The Manchester, one of the most productive of this class, also failed in some instances, no doubt from the same or similar causes.

The old Hovey's Seedling, of fifty years ago, is still claimed by the originator as the "par excellence" of all berries, and that no progress has been made in all that time. But aside from the question of quality no unprejudiced person will fail to acknowledge great progress in the way

of productiveness in their class, especially in the Queen, Manchester and Crescent, by the side of which Hovey's is nowhere in this particular.

If any one wishes to test and prove for himself the truth of this assertion by testing this "Original Jacobs" along with some of the later introductions, no doubt Mr. Hovey would be glad to furnish plants of his pet; to all such, however, I would proffer this bit of advice, viz.: to examine every plant when in flower, and note what per cent are pistillates.

Now, in view of the disadvantages and objections to this class of berries, what is the use of multiplying them? Can we not combine all of their virtues in the perfect flowering kinds? If this has not been done already, it is among the possibilities, and our experimenters can accomplish it if they set about it in earnest.

If horticulturists everywhere would "sit down" on the duplication of this class of berries by refusing to purchase them they would soon effect a reform in this matter, and if they would go a step further and decline to touch a novelty of any kind until it had been sufficiently tested, and its merits and demerits passed upon by competent and disinterested authority, they would save themselves and the community much loss of time, money and vexation, and prevent a vast amount of imposition.

But the great purchasing masses are not generally well posted in horticultural literature, hence are more readily allured by the glowing terms employed in advertising novelties, or become easy victims to the sophistry and untruthful statements of some of the vast hordes of peripatetics, who roam the country under the guise of tree agents, but in reality are parasites on the community. If intelligence on the remedy how can it be applied?

President Lyon, touching upon similar points, says in the *Rural New Yorker*:

"Persons accustomed to advise respecting the hybridization of the strawberry, commonly, if not indeed, almost universally, mention the fact of the absence of stamens as an inducement to the employment of pistillates in the process of hybridization."

"So far as the mere convenience of the operator may be concerned, this may be considered as sapient advice; and it is my conviction that it is accepted and acted upon, very generally, by originators of new varieties of this fruit. My attention is drawn to the subject by the circumstance that, among some twenty or more new varieties planted by me the present season, several of which are not yet offered to the public, more than half are pistillate.

"The time was when the fact of the existence of strawberries with imperfect or pistillate bloom was, at least, not recognized; and when recognized the number of such was comparatively small. More recently, however, these have been increasing upon us at a rapid rate, till we are impelled to ask the question—why is this?

"To such question there is one natural, direct and obvious answer, that the failure of the stamens is an imperfection; and that, in plants, as in animals, imperfection perpetuates itself in the process of reproduction. This has so long been recognized as a fact not to be overlooked in the propagation, not of animals only but of plants in general also, that it would seem to be a matter of surprise that with the steady increase of this tendency among our American varieties we have not long since been led to ask ourselves the reason why our varieties are thus imperfect; while those bred in Europe are invariably perfect in bloom.

"I will state, by way of illustrating and enforcing my assumption, that Mr. Hathaway, of Michigan, the originator of the Bidwell, derived it from a pistillate parent; and although the Bidwell is bisexual he has now, by continuing the same process, in the same direction, and with the same parent, originated a new batch of seedlings—three of the most promising of which have bloomed with me—two of them proving pistillate, while the third is nearly so. The Daniel Boone and the Mrs. Garfield, now just coming before the public, are both pistillates.

"Much is now being said about pedigree seeds and plants, and I fancy that the disciples of this theory, and, in fact, all who believe in the popular notion that "blood will tell," will, especially if engaged in the work of hybridizing the strawberry, consider it worth their while to practically settle the truth or the falsity of the idea herein put forth."

THE LAW OF CROSS-BREEDING.

From the forthcoming Michigan Horticultural Report.]

In reference to fruit trees and plants, all the facts I can find, new or old, point one way; that the mother tree or plant is more likely to impart the constitution and habits of growth to the seedling, and the male parent the quality and season of the fruit. Mr. Peffer, of Wisconsin, so finds it in his life-long series of experiments; and Dr. E. Lewis Sturtevant, at the New York Experiment Station, at Geneva, who is very cautious in statement, told me last fall that so far, the facts developed in his work indicate the same, although he did not claim to have found enough to justify him in stating it as a law. In illustration he showed me a lot of seedlings of the Turkish Cap tomato, a rot-proof variety. The tomatoes on all these seedlings were like those of the female parent, free from rot, although their shape, color and quality were as various as might be expected from the mixtures which the winds and insects had made in the isolated pollen. It may reasonably be expected that in this case, with both pistils and pollen perfectly isolated, and the pollen being taken from a choice variety, among some of the seedlings will be found a good rot-proof tomato, whose character may be fixed as a new and distinct variety. Gardeners, as well as fruit-growers and farmers have much to hope for from these Experiment Stations. We need many more of them.

In our efforts to get harder, better and longer-lasting apples by seedling production, we shall save a great deal of time and labor that has heretofore been wasted in haphazard work, from which not one

seedling tree in ten thousand is ever any gain—if we find out and apply the laws of variation, whereby improved conditions impart a tendency to improvement in the race, and the law of cross-breeding, whereby this tendency is developed, united and fixed in the new seedling. We shall find analogous facts for guides in these things in all close observations of plant and animal life. Races improve in reproduction solely by improved conditions in the parent life and through proper unions of strength and fine quality. We cannot attend too carefully to these conditions in the culture of all things over which we have control, for there is much to be gained by applying the principles of the science of heredity to the propagation of plants.

Now, in view of the disadvantages and objections to this class of berries, what is the use of multiplying them? Can we not combine all of their virtues in the perfect flowering kinds? If this has not been done already, it is among the possibilities, and our experimenters can accomplish it if they set about it in earnest.

Mr. Saunders, at Washington, last fall

told me of two interesting experiments that he had made some years ago. Wishing to fix in a new variety of the strawberry the strong, upright stem and other vigor of plant of the Fillmore in a union with good quality and productive fruit, he fertilized the Fillmore blossoms with pollen from one of the black sorts—he had forgotten the name, but probably the Black Defiance, and planted the seed. Among the new seedlings was a plant having the character he sought to produce, vigorous foliage and the stout stem holding its fruit up clear from the ground, and the berry of excellent quality, like its male parent. The name given to the new plant was Patuxet. It was lost in the mud from the overflow of the Potomac into the grounds of the Department of Agriculture, consequent upon the filling up of the old Washington and Georgetown Canal; but Mr. Saunders thought some of the plants sent to A. M. Purdy, of Palmyra, N. Y., might have been preserved.

The other experiment was with the raspberry. Doolittle black cap blossoms were fertilized with pollen from the Philadelphia Red, and among the seedlings was one with this remarkable variation; a raspberry bush of the black cap form bearing red berries similar to that of the male parent. This also was buried in the mud, and though Mr. Saunders searched carefully in long rubber boots—and with tears it is presumed—was unable to exhume it.

The practical lesson should be often stated and reiterated. Choose for seed-bearing the hardiest and thirstiest forms, of best habits of growth, and as far as possible fertilize by hand with isolated pollen from the sorts where quality and season suit us the best, never forgetting, however, that there must be *as careful isolation of the pollen as of the pistils*, and not expecting too certain results in every case; for with the utmost accuracy and care in our work, lusty nature in her stealth will sometimes get the better of our inclosure, and astonish us with new puzzles in the next generation; and more than this perhaps is the fact that we have always to encounter the forces of heredity and reversion as to previous mixtures, of which we perhaps know nothing whatever.

THE PHYLLLOXERA IN FRANCE.

Our Paris correspondent writes that the society for the encouragement of National Industry, has awarded its first prize of 12,000 francs to M. Fancion, for his plan of resisting the ravages of the phylloxera by autumnal submergence of the vines and good spring manurings. The plan is now applied to 50,000 acres of vineyards, that which signifies an assured production of more than half a million gallons of wine yearly. It is regrettable to learn that there are 200,000 acres of vineyards capable of being flooded, but that the proprietors decline to treat.

M. Gaillard de Beaune (Cote d'Or') has produced the latest remedy against the vine bug. Accepting as true, that fire purifies all things, he has invented a small hand-machine, weighing three pounds, called a flambeau, which injects a flame of petroleum a distance of ten inches. By a system of cocks, this flame can be directed in any direction, and a hood protects it from being deviated by the wind. It is thus between November and February, and during a dry period, that he singes vines attacked with the phylloxera, destroying their eggs, etc.; the same cure can be applied to any trees affected with insects, regulating the action of the flame to the delicacy of the stems. It is capital for blighting off old coats of paint, and scouring the walls of stables or apartments where an infectious malady has taken up its abode.

THE LAW OF CROSS-BREEDING.

From the forthcoming Michigan Horticultural Report.]

In reference to fruit trees and plants, all the facts I can find, new or old, point one way; that the mother tree or plant is more likely to impart the constitution and habits of growth to the seedling, and the male parent the quality and season of the fruit. Mr. Peffer, of Wisconsin, so finds it in his life-long series of experiments; and Dr. E. Lewis Sturtevant, at the New York Experiment Station, at Geneva, who is very cautious in statement, told me last fall that so far, the facts developed in his work indicate the same, although he did not claim to have found enough to justify him in stating it as a law. In illustration he showed me a lot of seedlings of the Turkish Cap tomato, a rot-proof variety. The tomatoes on all these seedlings were like those of the female parent, free from rot, although their shape, color and quality were as various as might be expected from the mixtures which the winds and insects had made in the isolated pollen. It may reasonably be expected that in this case, with both pistils and pollen perfectly isolated, and the pollen being taken from a choice variety, among some of the seedlings will be found a good rot-proof tomato, whose character may be fixed as a new and distinct variety. Gardeners, as well as fruit-growers and farmers have much to hope for from these Experiment Stations. We need many more of them.

THE APPLE TREE BORER.

In a month or so more the operations of this vilest of pests to which the apple tree is subjected will be commenced, and the effect will be seen in the leaves by the time they have gained their full growth.

The borer enters the stem of the tree near the ground, and makes its way up the trunk in the young wood just beneath the bark. Its presence can be readily detected where it enters by the fine sawdust looking particles which it ejects as it progresses. The holes which are made of course absorb much of the sap which belongs to the support and growth of the tree, which goes from the roots to the leaves to sustain them in their freedom, and the absence of which causes the discoloration of the leaves, as no doubt the owner of every apple orchard has over and over noticed, without knowing at all times the cause of it. Of course the removal of these destructive worms is the consummation devoutly to be wished, and the common mode of going at it is to run a stiff wire up the "ways" in the hope of crushing them; but this is not always successful. It may reasonably be expected that in this case, with both pistils and pollen perfectly isolated, and the pollen being taken from a choice variety, among some of the seedlings will be found a good rot-proof tomato, whose character may be fixed as a new and distinct variety. Gardeners, as well as fruit-growers and farmers have much to hope for from these Experiment Stations. We need many more of them.

CONSUMPTION.

The fruit growers of Riverside, California, have voted to entirely destroy the apple crop next year in order to get rid of the cooling moth, which has settled among them as if it meant to stay. The apple growers in the infected districts will be reimbursed for their sacrifice, as it is proposed to make the work thorough.

At the annual meeting of the Western New York Horticultural Society the assertion was several times repeated that Michigan horticul-

turests are far in advance of those of Western New York. That this is due to the interest awakened and the impetus given by our State Society and its corps of energetic officials "goes without saying."

S. BOGUE, of Batavia, N. Y., who raises plums for market quite extensively, keeps his hedges heavily manured and well cultivated. The curricle thins his fruit to just about the proper quantity for the trees to bear. He top-dresses to retain moisture and thinks it prevents the premature dropping of the leaves. He uses salt in quantity, less as fertilizer than for its action on other plant food in the soil which it makes available.

MR. SATTERTHWAITE, in a report on diseases of fruit trees to the Pennsylvania Horticultural Society, says no one need be afraid to plant a pear tree where one has been removed that died of fire blight. He has planted thousands of trees by the side of the stumps of those killed by fire blight, and not one was ever affected. He therefore decides the blight must be an entirely different disease from the yellow which affects the peach.

Trimming Apple Trees.

Those who do not finish trimming their apple trees before Christmas, have had but little opportunity to do it since; the rough cold weather of the last half of December and most of January, has driven the orchardist into business that would keep him warmer, than would the work of trimming trees. Sometimes there are pleasant days in February which this work can be comfortably done; when there are they should be improved, because the work is left until March, the sap begins to start, so that when a large limb is cut off, it is kept so wet by the running sap, that it is difficult to cover the wound with anything that will stick, thus leaving it exposed to the changes of the weather until the leaves begin to open; then it could be covered, but as a rule, if not done when the limb is cut off, it is neglected until decay commences, when it is too late to prevent serious injury.

While it is no doubt best to cut off all large limbs from fruit trees at a season when the sap will not flow from the wound, there is no doubt that a tree can be trimmed at any season, without serious injury, if particular efforts be made to cover the wounds with some waterproof material, as soon as the season arrives when it can be made to adhere to the wood. It would be better to trim at the most unfavorable season, if good care be taken to cover the large wounds, than to trim at the most favorable season, and neglect to protect the wounds made by cutting off large limbs.

To trim trees well, requires both patience and skill, especially when it becomes necessary to cut off large limbs. To

see them off and let them split down when two-thirds cut off, is to make a wound that will require years to heal, if ever it does. When a large limb is to be cut off, it should first be cut or sawed from the under side, thus preventing it from splitting. When the limb is off, sufficient time should be spent to smooth off the wound with a sharp paring chisel, so that when the wound begins to heal the new wood will begin at once to cover it; but if it is not pared off, it will take years for the new wood to grow up to the edge of the wound.—*Massachusetts Ploughman.*

A Poer Man's Confidence.

The loss of time to many a Rheumatic sufferer is worse agony than the disease. The remedy which is prompt and efficacious is his own real benefactor. Says Mr. F. Smith, of 622 S. 9th St., Phila.: "I suffered so much from Rheumatism without prospect of relief that I borrowed the money to buy a bottle of ATROPHOROS. After seven doses I had not a sharp pain or ache. Have been at work ever since. It is all that it is claimed for it, and will prove a sovereign balm for many a poor, suffering soul."

What Has Skepticism done for the world?

Nothing but to suggest doubts. It has even suggested that Rheumatism cannot be cured. Skepticism is as bad as Rheumatism.

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MICHIGAN FARMER

—AND—
State Journal of Agriculture.

A Weekly Newspaper devoted to the industrial and producing interests of Michigan.

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P. B. BROMFIELD,
Manager of Eastern Office,

150 Nassau St., New York.

The Michigan Farmer
—AND—
State Journal of Agriculture.

DETROIT, TUESDAY, FEBRUARY 26, 1884.

WHEAT.

There is no use repeating an oft told tale regarding the wheat market. It is just the same old story of moving up a few points and then dropping down again, with not a single feature of interest. There is a show of activity in the Chicago market, but it is largely of a speculative and scalping character. Spot wheat has declined, and so have all futures. The receipts here are very light, only 79,439 bu for the week, with shipments of 61,370 bu. The visible supply on February 16 was 31,829,913 bu.; the previous week it was 32,131,941 bu. Yesterday the wheat market was again weak under advices from other points. Chicago was active but lower, and values here on both spot and futures closed under Saturday's prices. The sales of cash wheat were 31 car loads, and of futures 135,000 bu.

The following table exhibits the daily closing prices of wheat from February 15th to February 25th:

	No. 1	No. 2	No. 3	No. 4	No. 5
white, white, white, red, red	96	98	100	99	99
Feb. 15.	1 04½	1 04½	1 03½	1 03½	1 03½
16.	1 04½	1 04½	1 03½	1 03½	1 03½
17.	1 04½	1 04½	1 03½	1 03½	1 03½
18.	1 04½	1 04½	1 03½	1 03½	1 03½
19.	1 04½	1 04½	1 03½	1 03½	1 03½
20.	1 04½	1 04½	1 03½	1 03½	1 03½
21.	1 04½	1 04½	1 03½	1 03½	1 03½
22.	1 04½	1 04½	1 03½	1 03½	1 03½
23.	1 04½	1 04½	1 03½	1 03½	1 03½
24.	1 04½	1 04½	1 03½	1 03½	1 03½
25.	1 04½	1 04½	1 03½	1 03½	1 03½

There is very little speculative trading in this market, barely enough to establish quotations on the various deals. The following table shows the closing prices of the various deals during the week:

	March	April	May
Tuesday.....	1 03½	1 03½	1 03½
Wednesday.....	1 04½	1 03½	1 03½
Thursday.....	1 04½	1 03½	1 03½
Friday.....	1 03½	1 03½	1 03½
Saturday.....	1 03½	1 03½	1 03½
Monday.....	1 03½	1 03½	1 03½

The foreign markets are quoted quiet and steady, with prices about the same as a week ago. The export demand is light.

The following table shows the prices ruling at Liverpool on Monday last, as compared with those of one week previous:

	Feb. 18.	Feb. 25.
Flour, extra State.....	9 9 d.	9 9 d.
Wheat, No. 1 white.....	8 7 d.	8 7 d.
do Spring No. 1.....	8 0 d.	8 0 d.
do do new.....	8 4 d.	8 4 d.
do Western 1888.....	8 2 d.	8 2 d.

CORN AND OATS.

Only 30,427 bu. of corn were received here the past week, and the shipments were 82,360 bu. The visible supply, however, is now 13,805,879 bu., an increase of 612,656 bu. during the week. The market has ruled quiet with tendency toward lower values. No. 2 is quoted at 53¢ per bu. in this market and rejected at 48¢. In futures March No. 2 corn is quoted at 54¢, and May at 57¢. The Chicago market is quoted quiet and lower. No. 2 is selling there at 52¢ per bu., high mixed at 53¢, and rejected at 43¢. In futures March delivery is quoted at 52¢, April at 53¢, May at 58¢. At Toledo the market is quoted steady at 54¢ per bu. for No. 2, 55¢ for March and 57¢ for May delivery. The Liverpool market is quoted steady at 5s. 2d. per cental for new mixed, and 5s. 5d. for old do., a decline of 4d. (1c) during the week.

Oats were received to the amount of 6,468 bu., and the shipments were 1,798 bu. Quotations in this market are 39¢ per bu. for No. 2 white, and 37¢ for No. 2 mixed. In futures May No. 2 is quoted at 39¢ per bu. Street prices are 35¢/36¢. The Chicago market is dull and easy, with No. 2 mixed selling at 32¢ per bu. In futures, February delivery is quoted at 32¢, March at 32¢, April at 32¢, and May at 36¢. The Toledo market is quoted steady at 36¢ per bu. for No. 2 mixed, and 38¢ for May delivery. The New York market is quoted dull and neglected, and values are lower than a week ago. Quotations there are as follows: No. 3 mixed, 40¢; No. 2 mixed, 41¢/42¢; No. 1 mixed, 41¢; No. 2 white, 42¢; No. 1 white, 40¢; Western white, 44¢/46¢; State white, 44¢/46¢.

CLOVER SEED.

The market shows more strength at present than for some weeks. Prime spot commands \$6 02¢, and No. 2 seed \$5.50. For March delivery \$6.05 is offered. There is not much activity in the trade, and it looks as if an increase in the demand would lead to higher prices. The Chicago market is quoted as opening strong last week, prime selling at \$6.15 per bu., but weakened and closed steady on Saturday at \$5.90+\$6. The English markets are quiet, the crop there being a large one this season. In some parts of Germany there is a scarcity, and the demand from there is quite active. The Canadian crop was a complete failure, and farmers will have to rely entirely upon this country for seed. The crop in this country was very disappointing, the yield being far below general estimates previous to threshing. It looks as if there would be a good demand for all the seed offering.

DAIRY PRODUCTS.

Good butter has shown more activity the past few days, and prices on such stock have been advanced. Quotations in this market are 24¢/25¢ for good table butter, and 20¢/22¢ for fair stock. Low grades in large supply and dull at 10¢/15¢ per lb. The demand is confined entirely to the better grades, and purchasers will not take poor stock except as there is nothing better to be had. Butterine is quoted active and firm at 16¢/17¢ per lb. The Chicago market is dull and unsettled, with demand very light. Quotations there are as follows: Fancy creamery, 30¢/32¢; fair to choice do, 22¢/28¢; choice dairy, 20¢/22¢; fair to good do, 16¢/18¢; common grades, 18¢/15¢; packing stock, 9¢/10¢. The New York market is of considerable, and while the demand shows some improvement values have tended downward all week. Quotations on State stock in that market are as follows: Fancy creamery, 38¢/34¢; choice do, 31¢/32¢; prime do, 29¢/30¢; fair to good do, 25¢/28¢; ordinary do, 20¢/22¢; best tubs and pails, 29¢/30¢; fine do, 26¢/28¢; good do, 22¢/25¢; and fair do, 16¢/20¢. Quotations on western stock are as follows:

Western imitation creamery, choice.....	34	22
Western do, good to prime.....	21	22
Western do, ordinary.....	18	21
Western dairy, good.....	17	18
Western dairy, ordinary.....	14	16
Western factory, good to prime.....	13	18
Western factory, fair to good.....	13	18
Western factory, ordinary.....	9	11

which will absorb what is coming forward of that sort per cent. It was to be expected that for general purposes all the Australian wool will be wanted before clip time, as well as all the choice Ohio fleece wool, which is certainly in small supply all around.

The sales of colonial wool in London are in progress, and a decline of five per cent on values, as compared with those of December, is reported. This will give importers an opportunity to stock up at better figures, and if that "horizontal" tariff bill becomes a law, it will give them a 20 per cent additional bonus for filling the country with foreign wool.

HOPS.

The hop markets are all firmer, and in most instances values are slightly higher than a week ago. The interior New York markets show increased activity, and holders are less willing to part with their hops than they were a month ago. A good many buyers are traveling through that State picking up all the lots of fair hops that they can get at current figures. At Waterville the *Times* reports sales of good lots at 25¢/per lb., and fair at 22¢/per lb. There were 116 bales shipped from that market for the week ending Thursday last; for the same date last year the shipments were 156 bales. The shipments to date from that market foot up 20,870 bales; last season for same time they were 20,736 bales. The demand for shipment abroad is quite active, and it is this that is strengthening the markets on this side of Atlantic. The shipments of hops from the port of New York from September 1st to date foot up 35,490 bales; for same time last season, 36,709 bales. The New York market is very firm at the following quotations:

N. Y. State, crop of 1883, choice (scarce).....	27	28
do do good to prime.....	21	22
do do low to fair.....	18	20
do crop of 1883, good to choice.....	14	16
do do fair to good.....	10	12

Pacific coast, crop of 1883, fair to prime.....

Ohio flats, ordinary.....

Ohio flats, fair to good.....

Ohio flats, good.....

Ohio flats, fair.....

Factory skins, choice.....

Factory skins, good.....

Factory skins, fair.....

do do new.....

Poetry.

SNOWED UNDER.

Of a thousand things that the Year snowed under—
The busy Old Year that has gone away—
How many will rise in the Spring, I wonder,
Brought to life by the sun of May?

Will the rose-tree branches, so wholly hidden
That never a rose-tree seems to be,

At the sweet Spring's call come forth unbidden,
And burst in beauty, and bloom for me!

Will the fair, green Earth, whose throbbing
beats,

Will the bird, like a maid in her gown at night,
Wake out of her sleep, and with blade and bloss-

som

Gem her garments to please my sight?

Over the knoll in the valley yonder

The loveliest buttercups bloomed and grew;

When the snow has gone that drifted them under,
Will they shoot up sunward, and bloom anew?

When wild winds blow and a sleet-storm pealed,

I lost a jewel of priceless worth;

If I walk that way when snows have melted,

Will the gem gleam up from the bare, brown

earth?

I laid a love that was dead or dying,

For the year to bury and hide from sight;

But out of a trance will it waken again;

And push to my heart, like a leaf to the light?

Under the snow lie things so cherished—

Hopes, ambitions and dreams of men—

Faces that vanished, and trusts that perished,

Never to sparkle or glow again.

The old year greedily grasped his plunder,

And covered it over and hurried away;

Of the thousand things that he hid, I wonder

How many will rise at the call of May?

O wise Young Year, with your hands held under

Your mantle of ermine, tell me, pray!

—Ella Wheel r.

THE BALLAD OF THE JUDGMENT OF PARIS.

What might the shepherd of Jano crave
Juno the Queen—by the hex tree?

Power, that makes of man a slave,

Crowned with a symbol of sovereignty;

Power that maketh from thence that he,

With a thirst naught slackens nor satisfies,

Follows forever the things that flee;

But the world would be empty if men were wise!

What was the promise that Pallas gave—

Pallas the cold, with the kirtled knee?

Learing that diggeth for man a grave

Under a pillar to pedestal;

Learning, a mole that in earth can see,

And misses the message of air and skies;

Learning that ever bath dust for fee;

But the world would be empty if men were wise!

L'ENVOI.

Goddess of mine (for I bend to thee)

Look at me now with thy wine-dark eyes!

If Love be a folly—ah! what care we!

For the world would be empty if men were wise!

Miscellaneous.

A GRAMMATICAL PRUDE.

Mr. and Mrs. George Russell were a pair of matrimonial debutants who were making their first essay at housekeeping in a pleasant little cottage near the seashore which they had taken for the summer, and wherein they had bestowed the various tasteful and ingenious articles of furniture and bric-a-brac of their wedding presents had chiefly consisted.

After a great deal of amateur carpentering and papering and painting the establishment had been pronounced complete, and a very happy month of undisturbed tete-a-tete had followed, at the end of which time each had remembered certain dear friends whom they had asked to visit them. No sooner had these friends been served with reminders of their promises than they promptly made their appearance. There was but one delinquent, Mrs. Russell's bosom friend, Eugenia Gray, and she was to follow very soon. Those already in residence at Lotus Lodge (transiently so christened by the romantic little bride) were Miss Carrie Temple, another bosom friend of Mrs. Russell's; Mr. Frank Turner and Mr. Hoffman Martin, the two gentlemen being greater friends of the host's. These five young people were all well educated and enlightened members of society, each having a reputation for culture in his or her little circle, which was quite as well deserved as such reputations usually are, though none of them could have laid claim to absolute erudition, except, perhaps, Mr. Martin, who was professor in a great college and looked upon as a rising man. In their several ways they were all fired by the desire for self improvement, and had come off for their holidays accompanied by vast numbers of books and manuscripts and scientific instruments and artists' materials. So far, however, although Mrs. Russell's guests had been with her a week, none of these articles had been called into requisition, and the days had passed in a *dolce far niente*.

"Eugenia will be here to-morrow," said Mrs. Russell to her husband, one pleasant evening, looking up from a letter she was reading, "and then, and not till then, our party will be complete."

"You think so?" said Mr. Russell, hesitatingly, taking his pipe from his mouth and looking fixedly into the bowl to avoid meeting his wife's eyes.

"Why, I thought you were very fond of Eugenia?" the latter said.

"So I am, my dear. I admire her immensely; but could we possibly be getting on more comfortably and prosperously than we are? Here are Frank Turner and Carrie Temple, who've been shilly-shallying all these months, coming to terms most beautifully under the spell of this judicious juxtaposition, aided by a shining example of marital felicity. And as for Martin, why, you see, he's an odd sort of fellow, and somewhat hard to suit, and yet how evident it is that he's suited down to the ground with things as they are now! I almost dread a change, and fear Eugenia may be a mistake."

"Eugenia a mistake! George, I wonder at you! And besides, you know how anxious I've always been to bring Mr. Martin and Eugenia together!"

"True," said her husband, smiling. "I've long seen that Martin ought to marry. He thinks too much of himself, and matrimony is good for that sort of thing."

"Dear me!" said Carrie Temple. "I be-

"You don't mean to say that I ever made you think less of yourself! Why, how could I when you are so much better and cleverer than I am? Indeed, George, I'm afraid you don't do your duty to me. I am always asking you to correct my faults, and you won't."

"Why should I?" asked her husband, shrewdly. "We do capital as we are, and there are not many natures that can stand being told of their faults, even if, by possibility, they should chance to have some. They should chance to have some."

"Oh, but George, I would never mind—especially from you. Do try me and see how well I'll take it."

At this point the conversation was interrupted by the entrance of a neat little parlour maid who came to announce tea.

It happened that during this meal, Mr. Martin stated that he must go to the city the next day and would be returning on the evening train—the very one that was to bring Miss Gray. So it was arranged that he should introduce himself and act as her escort, a plan which was accordingly executed, and with such success that, by the time they reached their destination, after a pleasant drive together in the summer gloaming, they had come almost to feel that they were old friends.

"It works beautifully," said Mrs. Russell to her husband as they sat that evening on the moonlight porch, observing the pair who were now the special object of their thoughts. Miss Gray, all in white, was stretched at ease in a hammock and Mr. Martin sat near by in a garden chair and gently manipulated the hammock string. At a little distance the forms of Mr. Turner and Miss Temple could be seen strolling about the garden paths, and Mrs. Russell, observing all this, felt with her a supreme content.

At breakfast, next morning, when the delicious country cream and butter and fruit had received their full share of attention, and every one was in his or her best humor, the little hostess solemnly proposed that they should, that morning, begin their schemes of self-improvement, by entering into a resolute agreement to tell each other of mistakes in grammar and pronunciation, whenever any member of the party should detect such on the part of any other member. Her proposal was warmly indorsed by all present, with one exception. Miss Gray was silent.

"What does it all matter? These minute technicalities of speech are not very important. It should be sufficient if one tells the truth! For my part I have very little sympathy with this apothecary of culture."

"Apothecary," corrected Miss Gray, laughingly.

"Of course," said Mr. Martin. "Why, Russell, where's your Greek now?"

Minnie flashed upon him a venomous little glance.

Mr. Turner, meantime, had strolled off to the window. He now returned, cigar-case in hand, saying:

"It's far too lovely a day to be spent in dry discussions. Some one come out on the lawn with me while I smoke my cigar. Will you, Miss Carrie? You must need change of scene after your harassing experiences."

"Harrasing," corrected Carrie.

"Why, I know better than that."

It was evident to the close observers present that Mr. Turner was not pleased. He had, in truth, a somewhat masterful nature, and he had finally decided to ask Miss Temple to marry him because he considered her pliant and dependent.

That she should know better than he did, in any issue whatsoever, was not agreeable to him. So now he merely bowed, without speaking, and went off to smoke his cigar alone.

"How dangerous these black-eyed men always look, when they are cross," said Miss Gray, making an effort to seem unconcerned, "Mr. Turner might have passed for a stage brigand, just then."

"Brigand, dear, dear! If you don't mind," said Miss Gray, "that word is accented upon the first syllable. But really, it seems too bad to be so captious. Let us try to think of something else. What has become of the expedition to the fishing-village? I've always imagined a place of that sort would be so picturesque."

"If you say one you would be disappointed," said Mr. Russell, "there's a great discrepancy between the real and the ideal."

"I dare say you are right," said Miss Gray, "but I and the lexicographers call that word discrepancy. I can not resist the temptation, you see! However, as to the fishermen, I can not help thinking I should be interested in seeing them at work, and in their own homes."

"Homes!" said Mr. Martin. "Don't desecrate that word by applying it to their wretched hovels. I assure you the *squar* or in which they live is indecentable."

"That word is pronounced *squaylor*, I beg to state," said Miss Gray; "what has become of your Latin, Mr. Martin?"

"Yes," said Eugenia, smiling demurely: "we shall see."

"For my part, I am delighted," said Mrs. Russell.

"You have given us just the impetus we needed, Eugenia. I meant to have begun this thing long ago."

"Meant to begin, my dear," said her husband. "There is number one in the list of corrections. Sure you don't mind?"

"Of course not," said Mrs. Russell, with gay good humor that was perhaps a trifle overdone, "if it is perfectly certain that you are right."

A short discussion of the point ensued, which resulted, of course, in Mrs. Russell's conviction.

"Poor little Min!" said Mr. Russell; "I'm afraid she's likely to have a hard time of it, not being up in these kind of things."

"These kind, Mr. Russell?" said Eugenia. "Number two!"

Any one who had been looking would have observed a little gleam of triumph in Mrs. Russell's eyes at this.

"These kind of things? Certainly," said Mr. Russell. "Why not?"

"Because kind is singular," said Miss Gray. "You can no more use these kind than you can say these apple."

"Of course," said Minnie, eagerly seizing the idea; "or these table, or these chair or these spoon."

"Why, Minnie, have you turned against me, too?" said her husband.

"Certainly. Didn't you turn against me, I'd like to know?"

"Dear me!" said Carrie Temple. "I be-

gin to shake in my slippers. I wish I had plead guilty at first and kept out of it."

"Pleaded, if you please, Carrie," said Miss Gray. "Plead is a regular verb."

"Goodness!" said Miss Temple. "I'll stop talking altogether."

"I don't know but what I'll follow your example—" Mr. Turner was beginning, when he was promptly pounced on by the others.

"But what, my dear fellow! Impossible!" said Mr. Martin. "I am rather surprised to see that our mistakes are more of grammar than pronunciation."

"Pro nun-she-a-shun, if you please, Mr. Martin," said Miss Gray; "your utterance of the word is very distinct and refined, in effect, but unfortunately, not correct, according to the dictionaries."

"Thank you very much for telling me," said Mr. Martin, in his suavest tone.

There was something portentous in this extreme civility, as Eugenia shrewdly suspected, and she fancied that, in his heart, he disbelieved her. So she proposed an adjournment to the sitting room and an appeal to the dictionary.

When the gentlemen presently came in, there were still visible certain evidences of uncomfortableness, but a disposition to let by-gones be by-gones was manifested and Mr. Turner approached quite affably.

"I have been making enquiries—" he began.

"Enquiries," put in Miss Temple, promptly.

Mr. Turner said nothing. He did not even look at Miss Temple, but those at whom he did look found that gaze the reverse of pleasant.

"Poor Carrie! She's done for herself now," commented Mrs. Russell, inwardly in great distress of mind.

Miss Temple, however, if she felt herself under Mr. Turner's ban, carried it off with spirit.

"We are both in disgrace," she whispered to Eugenia, with a little laugh.

"Mr. Martin is really quite as angry as Mr. Turner, but it is a more controlled kind of anger."

"It is really most preposterous," said Eugenia. "I wish he'd make another mistake."

"We have all had our lesson in the evil habit of careless speech," Mr. Martin said presently, "with the exception of Miss Gray. She, it seems, is impregnable."

"I don't venture to hope that," said Eugenia, concealing her sudden elation; "but while I think of it, let me say that the word you have just used is pronounced by authority as well as custom e'v'l with the i elided. I don't know why it should be. E'el has a corrector sound—but so it is. So also with devil—saving the company's presence—I've heard you treat that word in the same punctilious manner, as the dictionaries give dev'l."

"Really, Miss Gray," put in Mr. Russell.

"I don't know as ever I knew a gal as knows as much as you know."

"Any mistakes in that sentence? If so, don't put them down to me. It's a quotation."

"We must present you to our friends as the 'Great North American Corrector.' You should have a placard to that effect, hung around your neck."

"Placard, Mr. Russell, please. No objection to the scheme, but in my just-mentioned character I must except to the pronunciation."

"Why don't you hire a hall and give a lecture, Miss Gray?" said Mr. Russell.

"You might call it 'Grammatical Heresies and Schisms.'"

"If I did I should not pronounce schisms as if it were a word of two syllables—nor prisms either, nor baptism if it had three, as most people do."

"May I ask," said Mr. Russell "whether, by any chance

"THAT'S SO!"

It was some years ago, in an old-fashioned store, That a parrot perched daily just over the door; There he squinted at strangers, who started agast, And he chatted and swore at the arches that passed.

And his master was quite a remarkable man— A retailer of goods on a vigorous plan; He'd a habit of swearing his prices were low, And of saying—to clinch his assertions: "That's so!"

The sagacious old parrot for many a day Noted down every word that his master would say, Till the oft-uttered phrase he at last came to know: Then his principal pastime was speaking: "That's so!"

Once an elderly gentleman entered the store: He was very much pleased with the bird at the door,

And he said to the owner, "My friend, do you know—

That's a mighty fine bird!" Said the parrot: "That's so!"

The old gentleman stared with a look of surprise, As like a person who scarcely can credit his eyes,

And exclaimed: "I declare! It is wonderful, though—

How distinctly he talks!" Said the parrot: "That's so!"

And he marveled still more at the wonderful bird: "Twas the plainest discourser he ever had heard.

And he said "Will you sell him?" The owner said "No."

But I'll have him, I vow!" Said the parrot:

"That's so!"

"Well, old fellow, I see you're determined to buy,

What's your offer? Remember that parrot are high."

"Forty dollars, by jingo! Come, say it's a go!"

said the owner "It's cheap!" Quoth the parrot:

"That's so!"

"Then I'll raise it to fifty." "Well, take him along."

But its really letting him go for a song."

So the money was paid. "Now, away we will go!"

Said the buyer. The parrot responded: "That's so!"

With delight in his heart, and with pride in his eyes,

The old fellow went home with his gibbering pride,

Where he gleefully said to his wondering wife:

There's a present! You never had such in your life!"

"Did you buy it?" she asked him. "How much did you pay?"

For she feared he'd been fooling his money away.

"Why, I paid fifty dollars—some money, it's true; But you'll find he is worth that amount—and more too."

"Fifty dollars!" she said in a voice of surprise,

With a frown on her brow, and a fash in her eyes,

"Ain't he worth it, my dear?" "Fifty dollars?"

"Why no—

You're a stupid old fool!" Quoth the parrot:

"That's so!"

For the Michigan Farmer.

SOUND: ITS EFFECT UPON THE EAR.

To make this subject intelligible to the reader, it requires a double treatment; giving the anatomy of the ear as well as the philosophy of sound. "Acoustics" is the scientific name of that part of natural philosophy which treats of the origin, propagation and effects of sound. Sound is the result of vibratory motion in the particles of a sonorous or sounding body, which motion, acting upon the air, produces what is called sound waves; these undulations or waves striking upon the drum of the ear, give the sensation of sound. Unlike light, sound will not pass through a void space; for instance, if a bell were put into a receiver or close vessel and the air exhausted by means of an air-pump, no sound would be produced when struck by a hammer, because there would be no air in the vessel to produce sound waves. A sonorous body, when made to vibrate, propagates sound waves in all directions in increasing circles in the same manner as circular waves are produced upon the surface of a quiet lake when a stone has been thrown into it, widening until the impelling force has been exhausted. The velocity of sound has been variously computed from 1,100 feet to 1,142 per second; the latter number has been generally accepted as the nearest to being correct. If sound travels 1,142 feet in one second of time, it will reach some thirteen miles in a minute; at the same time light would have passed 480 times around our earth; or while sound is traveling thirteen miles in a minute, light would travel 12,000,000 miles. Solids and liquids convey sounds much more rapidly than the atmospheric air. The sonorous quality of a body depends much upon its degree of hardness and elasticity. It has been proven that sound moves between four and five times more rapidly through solids than through air; while sound moves only 1,142 feet in a second through air, it will travel 4,900 feet through water in the same time. As I previously mentioned that the sounding quality of a substance depended upon its hardness and elasticity, manufacturers of bells have discovered that an alloy of one part of the metal tin, to four parts of copper will produce a hard elastic body called "bell metal," which is generally used for the manufacture of bells. In this connection it would be well to mention the cause why a cracked bell produces an unpleasant sound. The split in a bell produces, when struck, a double sound or set of vibrations; these, clashing and jarring upon each other, impede their motion, thus producing discordant sounds. When a finger or hand is placed upon a sounding body, it ceases to vibrate, causing sound to cease, as there is no further impulse upon the air. In relation to the tones produced by the vibrations of a sonorous body, they vary according to the length of such vibration; if long, the tone will be of a grave, bass tone. The E string of a violin being very fine, short vibrations are produced by the bow, while the A string, covered with a metallic substance, produces grave tones or long vibrations. In musical tones or sounds it is the quality and variety which gives pleasure to the listening ear. Like painting to the eye, the ear can be delicately cultivated in relation to music. The finest and most complex strains of music are often lost upon the untutored ear, as the most perfect work of a landscape painter is unappreciated by the uncultivated eye. There is a difference in relation to the sounds produced by the various musical instruments. In the harp, piano, and other stringed instruments, there is a vibration of the string only, producing sound waves, while in the wind instruments the air is made to vi-

brate itself within the walls of the instrument. The changes in the atmosphere affect sound. Fogs, snow and rain impede sound by interfering with the undulations of the sound waves, breaking them up and rendering imperfect resonance. When the atmosphere is clear and cold, sound is much more easily transmitted, as there are fewer interruptions to the sound waves. Near the poles, the air is cold, clear and calm; there the sound of the human voice can be distinctly heard at the distance of a mile and a half. It would be advisable to give here an explanation of the cause of echo before passing to the anatomy of the ear. When sound waves strike against any obstacle, such as a wall, mountain or hill, they are impeded, and as a consequence they are reflected or thrown back, producing echoes. As the impulse which returns the sound waves to the ear is weakened, therefore the echoes are less perfect than the original sounds. The reflection producing echoes is governed much the same way as that of light.

I pass now to the description of the auditory or hearing apparatus in man. That part of the organ of hearing essential above all others is the auditory nerve, whose fibers are delicately expanded and spread over the surface of a thin membrane, placed in a locality adopted to receive the most delicate impulses of the sound waves from a sonorous body. This membrane, situated within what is called the labyrinth, may be regarded as the immediate organ of the sense of hearing; all others act merely as accessories help to collect and condense the vibrations of surrounding sound waves, and to direct their concerted action upon the tympanum or drum of the ear. This organ may be divided, for convenience, into external and internal ear. The external part of the ear is divided into several divisions, having as many different names, but it is not my object to puzzle the reader with hard names; I will use as few as possible to convey my ideas. That sunken part of the external ear, where the hole or passage begins leading to the internal ear, is called the concha, from its shape resembling a conch shell; the funnel shaped orifice leading from this, is called the meatus or passage, being about an inch and half in length. Along this meatus there is secreted a bitter wax or cerumen. The purpose of this bitter, unpleasant smelling wax, seems to be to exclude insects and animalcules. Many animals, the horse, mule, cow and sheep, have the power to move their ears in various directions, so as to receive sounds from different quarters more distinctly. Man has not this power, although having undeveloped motor muscles for that purpose; but as an offset to this, the human ear is curiously curved and excavated, presenting quite a number of surfaces in different directions, designed to concentrate the aerial waves and reflections, and pour them through the funnel-shaped meatus, which terminates at the drum of the ear, a thin membrane drawn tense, like the head of an ordinary drum. This membrane is so delicate as to be susceptible to the gentlest sound-waves impinging upon its surface. Behind this cavity are found small bones; the smallest in the human system. They are called from their peculiar shapes and uses, hammer or mallet, anvil, also resembling a molar tooth; stirrup, from its resemblance to the stirrup of a riding saddle; the smallest is called the round bone, being no larger than a millet seed. These bones are regularly articulated or joined to each other, so as to allow motion between them; and their office appears to be to transmit the vibrations of the tympanum to the auditory nerve and thence to the brain. In order to make what I have written more impressive upon the memory, I will repeat the process of hearing. First, the sound waves enter the ear, striking the drum, throwing it into vibration, this sensation is carried inward by the walls of the tympanum, then by the chain of small bones already described, and lastly, by the air within the tympanum. The action of the drum of the ear is much like that of a military drum. In the latter, there is an air hole to prevent it from bursting when beaten; in like manner God has wisely made an opening into the back part of the mouth leading to the rear of the ear-drum, thus preventing any ill-consequence from confined air in the ear. The opening in the mouth is called the Eustachian tube. It is natural for any one trying to catch a delicate sound, to open his mouth, that he may have a more distinct apprehension of the locality from whence the sound emanates. The closing of this tube often causes deafness; this may also occur from enlarged tonsils. By placing a watch in the mouth, the closing of the Eustachian tube can be easily ascertained. If closed the ticking cannot be heard; this may occur from paralysis of the auditory nerve, Deafness may be caused by injury of the drum of the ear; paralysis of the auditory nerve; and the accumulation of earwax impinging upon the drum, preventing its vibrations. Deafness is often produced by too frequent bathing in cold water. Bathers should put cotton in the external ear, thus preventing the ingress of water, which has a tendency to corrode or shrivel the ear-drum, rendering it imperfectly susceptible to the impression of sound waves, producing as a consequence, partial, if not total deafness.

had more than a dollar here at a time."

"Well, I don't know," replied the boy in a ruminative tone; "I don't wanter run no risks, I know a feller over yon in a telegraph office whose brother had six dollars wunst in a big bank down town eleven or eight years ago and it busted an' he never got only 60 cents out of it."

"Well," said the teller in a peppy way, as he shut the book with a snap, "any time you're afraid of your money just come around and let me know, and I'll see you get it. Your account is too lively for us anyway. We can't keep it in sight half the time, too much here today and gone tomorrow about it. This thing of depositing 20 cents in the morning and drawing out at 2.55 P. M. is getting played out."

"Why, last Saturday," said the teller, raising his voice, "I had a balance of 30 cents and came around before I could get my coat off in the morning to deposit a quarter, afraid somebody would rob you, I suppose, if you waited till later in the day, and by giner, you were back again at one o'clock and drew out all but five cents. What was that?"

"Yes, indeed," heartily responded the justice; "quite a fine morning; in fact, a \$10 fine morning."

After this little pleasantry the gentleman was booked for the "Black Maria," and the business of the court went on as usual.

A SERVANT girl in New Haven stole her mistress' false teeth. The woman told a policeman that "sheesh cash shweshy shollarsh, ansh she shwas wush wush wesh ashwo shwesh fawshe sheeth —".

"Wait till I find an interpreter," interrupted the policeman, thinking the woman was a newly arrived Hungarian; but she was an American, and when her teeth were in she could talk the head off him.

"Good morning, your honor," affably remarked the man who was arrested the night before for being drunk and disorderly.

"Yes, indeed," heartily responded the justice; "quite a fine morning; in fact, a \$10 fine morning."

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A skilfully prepared compound, concentrated extract, by a process peculiar to our own, of the best remedies of the vegetable kingdom known to medical science as alternatives, blood-purifiers, diuretics, and tonics. Sold by all druggists. Price \$1, or six for \$5. C. I. HOOD & CO., Lowell, Mass.

VARIETIES.

As a Central train approached New York, the other morning, the sleeping-car conductor and the porter noticed a weak-looking old gentleman peering around as though in search for something, and expressing his disappointment in the exclamation: "Dern a monopoly, anyway!" "Lost anything?" asked the kind porter, who hadn't up to that time been paid off the shue and slap with the whisk brush. "No, dern a monopoly," retorted the old man. "Mis laid anything?" inquired the conductor. "Dern a monopoly—no," replied the man, continuing the search with renewed vigor.

The passengers squinted around the car and tried to see something that didn't belong there, and then, notwithstanding they had all heard the questions put by the conductor and the kind-hearted porter, they asked him, he had lost anything.

"Lost anything?" asked the kind porter, who hadn't up to that time been paid off the shue and slap with the whisk brush.

"No, dern a monopoly," retorted the old man.

"I feel very much out of place," is what the Yonkers man said when he lost a good position.

A man feels a pride in being spoken of as "one of the oldest inhabitants," but a woman never does.

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"Our boys," Pater: "Knowledge, my boy, is better than wealth—" Filus: "Ye-es. But, po' my word, d' you know sir, I think I prefer the inferior article!"

A society young lady told her illiterate but wealthy lover that she was going to give a sermon, and he said that he'd be sure to come, as he was very fond of beer!

A river called Kissimmona, has been discovered by Stanley in Central Africa, and the Boston *Transcript* knows it has heard the name before, but not in this connection.

"Luke, is Jim Akers honest?" Dunn, boss. Jim bout an' den again' he mount'n be; but if I was a chicken, an' kin'd Jim was about, I tell ye wot, I'd root high!"

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Veterinary Department

Conducted by Prof. Robert Jennings, late of Philadelphia, the author of "The Horse and its Diseases," "Cattle and their Diseases," "Sheep, Lambs and Poultry," "Horse Training Made Easy," etc. Professional advice will be given to all readers, and subscribers free. Further, detailed information will be required to send their full name and address to the office of THE FARMER. No question will be asked, how long standing, together with the amount of time and money spent, if any, has been devoted to the practice of Veterinary Medicine.

Private address, 201 First Street, Detroit.

Prolapsus or Eversion of the Rectum.

St. Louis, Feb. 14, '84.
Veterinary Editor Michigan Farmer.

Dear Sir.—Please give me remedy for my pigs—at least the common seems turned out and bleeded. I have fed wheat middlings and linseed meal. Last winter I lost four valuable pigs in this same way. These pigs do not seem to be sick except that, at least they eat well since they were taken. I have fed boiled potatoes with linseed meal, and corn and oats ground.

C. H. STANTON.

Answer.—If your description of the symptoms in your pigs is correct, your diagnosis is at fault. Hemorrhoids, or piles, are varicose or venous enlargements, and about the rectum, in the form of soft knots, or solid tumors. But as your description does not favor such a condition we diagnose the trouble as prolapsus ani, or eversion of the rectum, usually accompanied by constipation of the bowels, diarrhea or dysentery.

Treatment: When constipation is present, the protruded intestine must be carefully emptied, washed clean with tepid water and castile soap, then bailed with olive or sweet oil, or hog's lard will answer the purpose, and the part returned carefully. Give internally the following:

Flower of sulphur, one pound; tartarate of potassa, one pound; mix well together.

Dose, one ounce twice a day in the feed. When diarrhea or dysentery is present, the following injection should be used:

Sulphate of zinc, one drachm; glycerine, two to three drachms; rain water, one pint; mix all together and shake well. Give internally catechu and prepared chalk, powdered, of each one ounce; mix and divide into twenty powders. Give one powder to each pig twice a day in his feed, discontinue the powders on the first indication of improvement. If acorns are to be had, they alone will answer a good purpose.

Probably Hock Lameness.

ANN ARBOR, Feb. 16, 1884.
Veterinary Editor Michigan Farmer.

Dear Sir—I have a colt, four years old, bright bay. He was taken lame about four weeks ago in his left hind leg; sometimes I think it is in his stifle and at other times in his gambrel joint. Sometimes he is very lame, and again you can hardly see it. There is no swelling or bunch of any kind to be seen. I have your book, but it does not state anything about such a disease. I have had two veterinary surgeons to see him; one says it is in his hock joint, caused by a strain, and may cause a bone spavin; the other says it is the St. Vitus dance, caused by a spavin of the stifle joint, and says I can work him. The first one says I must not use him. Now I would like you to answer through the FARMER, and greatly oblige,

A SUBSCRIBER.

Answer.—If your veterinary surgeon, with the animal before them, cannot satisfactorily locate the lameness, we, with a description so indefinite, do not feel justified in making the attempt. The probability is your veterinary surgeon who located it in the hock joint is correct. We would advise you to be governed by his directions. Saint Vitus dance (chordee) is a spasmodic disease not confined to any particular location.

Blood or Bog Spavin, and Thoroughpin.

HOWELL, Feb. 19, '84.
Veterinary Editor Michigan Farmer.

Dear Sir.—What is the difference between blood or bog spavin, and thoroughpin? I have a fine two year old colt that has something of the kind; has come very recently, I think caused by slipping on the ice. Has had no treatment. Can you give me a remedy?

SUBSCRIBER.

Answer.—Blood or bog spavin, and thoroughpin, are one and the same disease, but in different stages of development. As your animal is young, and the injury recent, we can recommend no more effective remedy than Prof. R. Jennings' Envico Liniment. If your druggist does not keep it, he will get it for you.

Stifle Lameness.

LAKEFEE, Feb. 12, '84.
Veterinary Editor Michigan Farmer.

Dear Sir.—I have a horse, colt, will be two years old next June, dark gray in color, has lame about six months; is lame in left hind leg in the stifle joint; it seems to be weak; the cap over the joint seems to slip sideways and snap, and then back, and then will walk for a ways all right. It acts like what people calls stiffe out. I have not done anything for the colt; thought it would outrun it. Will you please give me directions through the FARMER, and oblige a subscriber.

J. M.

Answer.—The stiffe bone is not out of place. The injury should have received earlier attention. A good fly blaster will be likely to do more good than anything else. If the animal is not benefited in two or three weeks repeat the application.

OUR young friend R. L. Parkin, of Romeo, paid us a friendly visit on Thursday last. It is gratifying to us to know that his efforts are appreciated and encouraged by the farmers and breeders of Macomb County, and that his success in the treatment of the diseases of domestic animals has been so satisfactory to all concerned. The citizens of Romeo and vicinity, who were influential in securing his services, are already reaping the benefits of having an educated veterinary surgeon in their midst. We predict for him a bright and prosperous future.

From St. John, N. B.
Editor "Christian Visitor" writes: "Adamson's Botanic Cough Balsam has been frequently used in the family of the editor, and always with the most satisfactory results."

REV. J. E. HOPPER, St. John, N. B.

COMMERCIAL

DETROIT WHOLESALE MARKET.

DETROIT.—Receipts for the week, 2,496 bbls, against 2,167 bbls. last week, and 4,870 bbls. the corresponding week in 1883. Shipments, 1,400 bbls. The local demand is fair, but shippers are doing very little. Values about the same as a week ago, except Minnesota bakers' brands, which are lower. Flour is quiet and a shade lower. Quotations yesterday were as follows:

Michigan white wheat, choice..... \$4.50 @ \$5.00 Michigan white wheat, roller process..... 5 @ \$5.00 Michigan white wheat, medium..... 5 @ \$5.00 Minnesota, bakers..... 7 25 @ \$7.50 Minnesota, patents..... 3 62 @ \$3.75

Wheat.—The tendency has been downward all week, and yesterday there was a decline in both spot and futures. Quotations are as follows:

No. 1 white \$1.05; No. 2 white, 93¢; No. 2 red, \$1.05; No. 3 red, \$1.05; No. 4 red, \$1.05; May, \$1.05.

Corn.—Yesterday showed the largest receipts at this point ever known for one day. Old corn is firm, while new is unsettled and weak. No. 2 is selling at \$3 16¢, new high mixed at 50 1/2¢, except that at 49 1/2¢.

Oats.—Market very quiet. Latest quotations are 35 1/2¢ for No. 2 white, and 36 1/2¢ for No. 2 mixed. Street price, 36 3/4¢.

Barley.—Fine western samples are quoted at \$1.00 @ \$1.00 per bu., and Canada barley about 10¢ higher. State is selling at \$1.20 @ \$1.00 per cwt, and on the street at 50¢ @ 70¢ per bu.

Oatmeal.—Demand good and prices steady. Quoted at \$60 @ 50 per bbl.

Corn Meal.—Firm and steady at \$23 @ 25 per ton for fresh ground.

Feed.—Receipts and stocks very light. Bran is quoted at \$1.50 @ 17 1/2¢; middlings are nominal at \$1.30 @ 17 1/2¢ per bu., and Canada barley about 10¢ higher.

Loveland sold John Robinson a mixed lot of 12 lbs. of good butchers' steers at \$4.65, and a bull weighing 1,200 lbs. at \$3.50.

Sutton sold John Robinson a mixed lot of 12 lbs. of head of thin butchers' stock at \$4.12.

Estep sold Duff & Spencer 2 fair oxen at \$1.65 lbs. at \$4.35.

Brown & Spencer sold John Robinson a mixed lot of 12 lbs. of head of thin butchers' stock at \$4.12.

Hood sold John Robinson a mixed lot of 5 head of fair butchers' stock at \$84 lbs. at \$4.45, and 2 good steers at \$1.20 lbs. at \$3.50.

Loveland sold John Robinson a mixed lot of 12 lbs. of head of thin butchers' stock at \$4.65, and a bull weighing 1,200 lbs. at \$3.50.

Hood sold John Robinson a mixed lot of 5 head of fair butchers' stock at \$84 lbs. at \$4.45, and 2 good steers at \$1.20 lbs. at \$3.50.

Garrison sold Duff & Spencer 4 butchers' steers at \$1.65 lbs. at \$4.12.

Hood sold John Robinson a mixed lot of 12 lbs. of head of thin butchers' stock at \$4.65, and a bull weighing 1,200 lbs. at \$3.50.

Hood sold John Robinson a mixed lot of 5 head of fair butchers' stock at \$84 lbs. at \$4.45, and 2 good steers at \$1.20 lbs. at \$3.50.

Pickering sold Hubert 8 good butchers' steers at \$1.02 lbs. at \$3.50.

Roe sold Duff & Spencer 2 fair oxen at \$1.65 lbs. at \$4.35.

Campbell sold Sullivan 8 good butchers' steers and heifers at \$1.03 lbs. at \$3.50.

Smith sold Wreford & Beck 2 fair oxen at \$1.65 lbs. at \$4.35.

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